Rapid Assessment Reference Condition Model

The Rapid Assessment is a component of the LANDFIRE project. Reference condition models for the Rapid Assessment were created through a series of expert workshops and a peer-review process in 2004-2005. For more information, please visit www.landfire.gov. Please direct questions to helpdesk@landfire.gov.

Potential Natural Vegetation Group (PNVG):

R0GFLP **Grand Fir/Lodgepole/Larch/Douglas-Fir Mix**

General Information

Contributors *(additional contributors may be listed under "Model Evolution and Comments")*

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Vegetation Type

Forested

Dominant Species*

PICO
PSME
LAOC
ABGR

General Model Sources

- [ ] Literature
- [ ] Local Data
- [ ] Expert Estimate

LANDFIRE Mapping Zones

10 21
19 22
20 29

Rapid Assessment Model Zones

- [ ] California
- [ ] Great Basin
- [ ] Great Lakes
- [ ] Northeast
- [ ] Northern Plains
- [x] N-Cent.Rockies
- [ ] Pacific Northwest
- [ ] South Central
- [ ] Southeast
- [ ] S. Appalachians
- [ ] Southwest

Geographic Range

This PNVG occurs mostly in Idaho, eastern Washington , eastern Oregon, and western Montana. It is very important in Bailey's section M332 .

Biophysical Site Description

Occurs above 4500 feet elevation, just above the grand fir with Douglas fir and larch zone (R0GFDF) and below the spruce-fir zone. Soils are underlain by granitics, metamorphics, and minor volcanic rocks. Most have a volcanic ash influenced loess surface layer.

Vegetation Description

Stands range from relatively open to densely stocked, and are usually dominated by a mix of early to mid seral species, including lodgepole pine, western larch, with lesser amounts of grand fir, Englemann spruce, and ponderosa pine. Grand fir increases markedly during mid to late successional stage, in the absence of fire and in response to pathogens that affect other species, like bark beetles. Stand understories range from moderately open to dense and include beargrass, mountain huckleberry, grouse whortleberry, serviceberry, and snowberry.

Disturbance Description

Fire regime group III, with stand replacing fires sometimes punctuated by mixed severity fires. Root disease and mountain pine beetle are very active in this PNVG.

Adjacency or Identification Concerns

This PNVG represents the warm/moderately moist grand fir habitat types (Pfister et al. 1977). This PNVG grades into grand fir with larch at lower elevations (R0GFDF) and western spruce-fir forest at higher elevations. It may be difficult to differentiate this PNVG from R0GFDF and R0WLLPDF, as the three types commonly overlap. This PNVG typically supports more lodgepole pine than the adjacent (lower elevation)

*Dominant and Indicator Species are from the NRCS PLANTS database. To check a species code, please visit http://plants.usda.gov.

grand fir type. The mosaic of open versus closed canopy is similar between this type and R0GFDF, but the fire return interval is longer.

This PNVG may be similar to the PNVG R#MCONms from the Pacific Northwest model zone.

Scale Description

Sources of Scale Data ☑ Literature ☑ Local Data ☐ Expert Estimate

Terrain is usually rolling hills, convex ridges and mountain slopes with little dissection, so fires spread easily. Large infrequent fires result in large patch sizes, of 100's to 1000's of acres, and some occurrence of 10,000's of acres.

Issues/Problems

Proportion of seral structural stages may fluctuate widely over time because large stand replacing fires can affect 100,000 acres at a time.

Model Evolution and Comments

Workshop code was GFDF2.

Sources on historic composition are derived from Losensky (1993) and Sub-basin Assessments from the 1930s (US Department of Agriculture 1997-2003).

Review comments incorporated on 3/16/2005. As a result of the peer-review process, the mean fire return interval was increased to approximately 70 years (from 55 years) and the proportion of mixed to replacement fire was increased from 55:45 to approximately 70:30.

Succession Classes

Succession classes are the equivalent of "Vegetation Fuel Classes" as defined in the Interagency FRCC Guidebook (www.frcc.gov).

Class A 15 %

Early1 PostRep

Description

Post stand-replacing fire, lasting about 30 years. This class is initially dominated by resprouting forbs and shrubs, and transitions to seedling and sapling-dominated. Lodgepole pine is a frequent early seral dominant. Douglas fir and larch are common, while ponderosa pine and grand fir are less common. Residual, large western larch often survive all but the most severe fire to serve as seed sources.

Indicator Species* and Canopy Position

XETE
VAGL
PICO
PSME

Upper Layer Lifeform

☐ Herbaceous
☐ Shrub
☐ Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

	Min	*Max*
Cover	0 %	100 %
Height	no data	no data
Tree Size Class	no data	

☐ Upper layer lifeform differs from dominant lifeform. Height and cover of dominant lifeform are:

*Dominant and Indicator Species are from the NRCS PLANTS database. To check a species code, please visit http://plants.usda.gov.

Class B 15 %

Mid1 Closed

Description

Pole and immature forest (or mature lodgepole) of 30 to 100 years. Tree canopy cover of 40 percent or more. Lodgepole pine is the most common dominant. Douglas-fir and western larch are secondary dominants. Larch may be reduced by grand fir competition, in the absence of fire.

Indicator Species* and Canopy Position

PICO
PSME
LAOC
ABGR

Upper Layer Lifeform

☐ Herbaceous
☐ Shrub
☐ Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

	Min	*Max*
Cover	40 %	100 %
Height	no data	no data
Tree Size Class	no data	

☐ Upper layer lifeform differs from dominant lifeform. Height and cover of dominant lifeform are:

Class C 25 %

Mid1 Open

Description

Pole and immature forest (or mature lodgepole) of 30 to 100 years. Tree canopy less than 40 percent. These are usually created by mixed fire, root disease activity, or mountain pine beetle activity in mixed conifer stands.

Indicator Species* and Canopy Position

PICO
ABGR
PSME
LAOC

Upper Layer Lifeform

☐ Herbaceous
☐ Shrub
☐ Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

	Min	*Max*
Cover	0 %	40 %
Height	no data	no data
Tree Size Class	no data	

☐ Upper layer lifeform differs from dominant lifeform. Height and cover of dominant lifeform are:

Class D 20 %

Late1 Open

Description

Mature forest of 100 years or more. Tree canopy less than 40 percent. These are usually the result of mixed severity fire, leaving an overstory of larch, Douglas fir, with some residual grand fir or ponderosa pine and lodgepole. They may also occur as a result of insect or pathogen activity removing a Douglas fir, lodgepole or grand fir understory.

Indicator Species* and Canopy Position

LAOC
PSME
PIPO
PICO

Upper Layer Lifeform

☐ Herbaceous
☐ Shrub
☐ Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

	Min	*Max*
Cover	0 %	40 %
Height	no data	no data
Tree Size Class	no data	

☐ Upper layer lifeform differs from dominant lifeform. Height and cover of dominant lifeform are:

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*Dominant and Indicator Species are from the NRCS PLANTS database. To check a species code, please visit http://plants.usda.gov.

Class E **25 %**

Late1 Closed

Description

Mature forest of 100 years or more. Tree canopy cover greater than 40 percent. These are usually the result of uninterrupted succession in areas of low root disease occurrence or in areas of larch dominance.

Indicator Species* and Canopy Position

LAOC
ABGR
PSME
PICO

Upper Layer Lifeform

☐ Herbaceous
☐ Shrub
☐ Tree

Fuel Model no data

Structure Data (for upper layer lifeform)

	Min	*Max*
Cover	40 %	100 %
Height	no data	no data
Tree Size Class	no data	

☐ Upper layer lifeform differs from dominant lifeform. Height and cover of dominant lifeform are:

Disturbances

Non-Fire Disturbances Modeled

☑ Insects/Disease
☑ Wind/Weather/Stress
☐ Native Grazing
☐ Competition
☐ Other:
☐ Other:

Fire Regime Group: **3**

I: 0-35 year frequency, low and mixed severity
II: 0-35 year frequency, replacement severity
III: 35-200 year frequency, low and mixed severity
IV: 35-200 year frequency, replacement severity
V: 200+ year frequency, replacement severity

Historical Fire Size (acres)

Avg:
Min:
Max:

Fire Intervals (FI):

Fire interval is expressed in years for each fire severity class and for all types of fire combined (All Fires). Average FI is the central tendency modeled. Minimum and maximum show the relative range of fire intervals, if known. Probability is the inverse of fire interval in years and is used in reference condition modeling. Percent of all fires is the percent of all fires in that severity class. All values are estimates and not precise.

Sources of Fire Regime Data

☑ Literature
☑ Local Data
☐ Expert Estimate

	Avg FI	*Min FI*	*Max FI*	*Probability*	*Percent of All Fires*
Replacement	220	50	250	0.00455	31
Mixed	100	35	150	0.01	69
Surface					
All Fires	69			0.01456	

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